Patent claims

1. Promoter for expression of arbitrary genes in plant seeds, wherein there exists the sequence of Fig. 1a, which thus becomes the object of the claim.

2. Promoter according to claim 1, wherein it mediates the expression in the cotyledons and in the endosperm of seeds as a function of development.

3. Expression cassette for expression of arbitrary genes in the plant seed, containing:
   - a promoter according to claim 1 or 2,
   - a gene to be expressed
   - 3' termination sequences.

4. Expression cassette according to claim 3, wherein it additionally contains the DNA sequence of a signal peptide, preferably the SBP signal peptide.

5. Expression cassette according to claim 3, wherein a further DNA sequence is downstream to the DNA region provided with a transcriptionally regulatory sequence for a strong seed-specific gene expression, the latter region containing the information for the formation and quantitative distribution of endogenous products or the expression of heterologous products in culture crops.

6. Expression cassette according to claims 3 to 5, wherein arbitrary foreign genes are integrated either as transcription or as translation fusions.

7. Expression cassette according to claims 3 to 6, wherein the signal peptide of the SBP seed protein gene is used as a signal peptide.

8. Expression cassette according to claims 3 to 7, wherein the gene of the sucrose binding protein like gene is used as the gene to be expressed.

9. Expression cassette according to claims 3 to 8, wherein it is also used for co- and multiple transformations.

10. Plasmids containing an expression cassette according to claims 3 to 8.

11. Plasmid pSBPROCS according to claim 10, comprising a DNA sequence about 5.3 kB in size, in which a SalI promoter fragment of the regulatory starter area about 1.9 kb in size including the signal peptide and 5 triplets of the SBP-homologous gene of Vicia faba, restriction sites for cloning of foreign genes and the transcription terminator of the octopine synthase gene are contained.

12. Plasmid pPTVSBPRGUS according to claim 10, a DNA sequence about 14.9 kb in size, in which a phosphinothricin resistance gene about 1 kb in size, a SalI/NcoI promoter fragment of the regulatory starter area of the SBP-like gene of Vicia faba about 1.8 kb in size, the coding region of the ß-glucuronidase about 2 kb in size and the transcription terminator of the octopine synthase gene are contained.

13. Method for the insertion of an expression cassette according to claims 3 to 9 with a DNA sequence for strong seed-

specific gene expression into a plant cell, comprising the following steps:

a) isolation of clone VfSBP20, wherein the gene coding for the SBP seed protein occurring in the plant seed is selected from a cDNA Bank of cotyledons of Vicia faba,

b) isolation of clone pSBPR15, wherein the DNA sequence contained therein comprises the regulatory starter region of the SBP seed protein gene of Vicia faba and a sequence from a related legume hybridising with the DNA sequence of the SBPR15,

c) production of the plasmid pSBPOCS making use of the SalI fragment of plasmid pSBPR15 1.9 kb in size,

d) integration of foreign genes into the pSBPOCS expression cassette,

e) cloning of the expression cassette containing a DNA sequence for over-expression of foreign genes in plant seeds into binary vectors

f) transfer of the expression cassette containing an foreign gene under the control of the promoter according to claims 1 or 2 into a plant cell.

14. Use of an expression cassette according to claims 3 to 9 for expression of homologous and heterologous genes in the seeds of transformed plants.

15. Use of an expression cassette according to claims 3 to 9 for expression of genes changing the storage capacity or the germination capability of seeds.

16. Use of the plasmids pBISBPR7, pBISBPR15, pSBPGUS, pPTVSBPRGUS and pSBPOCS or derivatives thereof for transformation of culture crops.

17. Use of the plasmids pBISBPR7, pBISBPR15, pSBPGUS, pPTVSBPRGUS and pSBPOCS or derivatives thereof for regulation of endogenous processes or for production of heterogenous products in culture crops.

18. Use of an expression cassette according to claims 3 to 9, wherein the transformed plants expressing new gene products or such altered in the seeds are selected, genetically stable lines are bred and the gene products are extracted from the seeds of the transgenic plants.

19. Plant cell containing a plasmid according to claims 10 to 12.

20. Plant cell produced according to the method of claim 13.

21. Plant or plant tissues regenerated from a plant cell according to claims 14 or 15.

22. Plant according to claim 14, wherein it is a culture crop.

23. Use of the DNA sequence of the SBP signal peptide in an expression cassette for expression of arbitrary genes in plant seed.